REMARKS

By this amendment, claim 8 is revised and arguments are made to place this application in condition for allowance.

Claim 8 is revised to clarify the purpose of the step of pressure release in the plumbing near a spraying port.

Turning now to the rejections of record, Applicants request reconsideration of the rejections of record.

In review, independent claim 1 is rejected under 35 USC §103 based on United States Patent No. 3,823,599 to Litz et al. (Litz) when combined with JP 10-028902 (JP '902), JP 09292094 (JP '094), and JP 11035967 (JP '967).

Independent claims 6 and 8 are rejected under 35 USC §103 based on United States Patent No. 5,983,689 to Yorifuji et al. (Yorifuji) when combined with the three Japanese publications used to reject claim 1.

Applicants respectfully traverse the rejections on the grounds that the Examiner has not established a prima facie case of obviousness.

In order to assist the Examiner in the understanding of Applicants' arguments in support of patentability, Figures A-C are submitted in an attachment to this filing to better explain the invention.

Figure A shows the device for switching flow direction and two lines of plumbing to the flow switching device. A third line of plumbing extends from the flow switching device to the spray nozzle for the disk rolls. A device for releasing pressure in the plumbing is shown in communication with the plumbing between the disk rolls and flow switching device.

Figure B depicts the lubricant flow direction during piercing. The lubricant passes through the flow switching device to the spray nozzle and disk rolls. In Figure C, which depicts the state when piercing is not performed, the flow from the storage tank is redirected back to the storage tank via the flow switching device. Pressurized lubricant in the plumbing lines downstream of the flow switching device is returned to the storage tank with assist from the fluid in the pressure releasing device.

Turning now to the rejection, the basis of the traverse is that the cited prior art of JP '967 does not disclose or suggest the device for releasing pressure in the plumbing of the claimed system or the method of such pressure release.

Each of claims 1 and 6 defines this feature in the clause "a device for releasing pressure in the plumbing, provided between the switching device and the spray nozzle." Claim 8 calls for the step of "releasing pressure of the lubricant in the plumbing near a spraying port to the disc rolls to prevent dropping the lubricant from the spraying port when piercing is not performed."

In the rejections, the Examiner alleges that JP '967 teaches a guide shoe that releases and controls the pressure. Applicants submit that the Examiner has committed error in this interpretation and the rejection is improper because of this error. The guide shoes disclosed in JP '967 corresponds to the disk rolls of the claims. There is nothing in JP '967 that suggests that the guide shoes somehow release pressure in the plumbing between a switching device and spray nozzle. The invention of JP '967 relates to the composition of the lubricant so that the lubricant does not flow down and splash out from the guide shoes. As such, JP '967 cannot be construed to teach the release and control of pressure in the plumbing provided between the switching device

and the spray nozzle. If the Examiner continues to allege that the guide shoes are the same as the device of or step for releasing pressure, a full explanation is requested.

In paragraphs [0083 and 0091] of Applicants' published application, it is described that the device for releasing pressure in the plumbing is placed between the switching device and the nozzles in order to prevent the slip which occurs between the main rolls and the material due to a drop of the lubricant from the nozzles onto the main rolls by residual pressure while the piercing mill is not at work or to prevent the contamination of the factory environment.

In paragraph [0091] of the published application, it is described that the pressure in the plumbing near the nozzle is released when the piercing mills is not at work.

In paragraph [0115] of the published application, it is described that in the case of stopping spray and making the main lubricant circulate in the plumbings, the lubricant remaining in some point from the pipes A and B to the nozzles is led to the three way valve 229 via the three way valves 232, 233, and plumbings 230, 231 and returned from the three way valve 229 to the lubricant tank 220 via the plumbing 234 in the reverse path using the compressed air led to the system.

Therefore, it is clear in the present application that the device for releasing pressure in the plumbing is the device for releasing pressure in the plumbing between the flow switching device and the spray nozzle. For example, by using the compressed air, the lubricant remaining in the plumbing is led to the lubricant tank, thereby preventing the lubricant from dropping from the spray nozzle. Such a device is not disclosed or taught in JP '967.

Moreover, according to the invention, since the lubricant is prevented from dropping from the spray nozzle, the contamination of the factory environment due to adhesion of the lubricant to the surrounding equipment is prevented, see for example paragraph [0084] of the published application.

In addition, the present invention prevents clogging of the nozzle while the lubricant is not sprayed from the nozzle because the pressure in the plumbing between the device for switching flow direction and the spray nozzle is released at that time. For example, by using the compressed air, the lubricant remaining in the plumbing is led to the lubricant tank so that almost the entire amount of lubricant is removed fro the spray nozzle.

Turning back to the rejection, Applicants submit that the pressure release device and its location as defined in claims 1 and 6 as well as the method of claim 8 and the releasing of pressure in the plumbing near a spraying port to the disc rolls is not taught in JP '967. Since JP '967 is cited for this teaching and, in fact, fails to teach the claim limitation, a prima facie case of obviousness is not established with prior art and the reasoning used to reject claims 1, 6, and 8.

The question remains as to whether any of the other prior art teaches the pressure relief feature of the claims. Applicants submit that no such teaching is found in the other cited prior art. Therefore, even if this prior art is combined as described in the rejection, a prima facie case of obviousness is not made out against claims 1, 6, and 8. Therefore, these claims are patentable.

The dependent claims are also patentable by reason of the claim dependency.

Accordingly, the Examiner is requested to examine this application and pass all pending claims onto issuance.

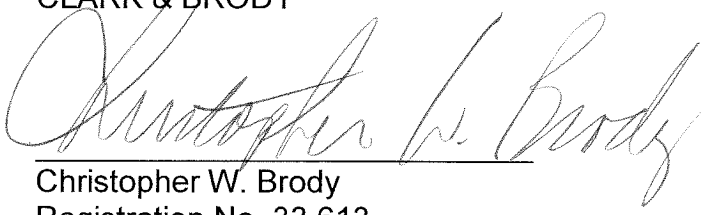
If the Examiner believes that an interview would be helpful in expediting the allowance of this application, the Examiner is requested to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the outstanding Office Action.

Again, reconsideration and allowance of this application is respectfully requested.

Applicants respectfully submit that there is no fee required for this submission, however, please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,
CLARK & BRODY



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Schematic drawings of the present invention

Fig. A

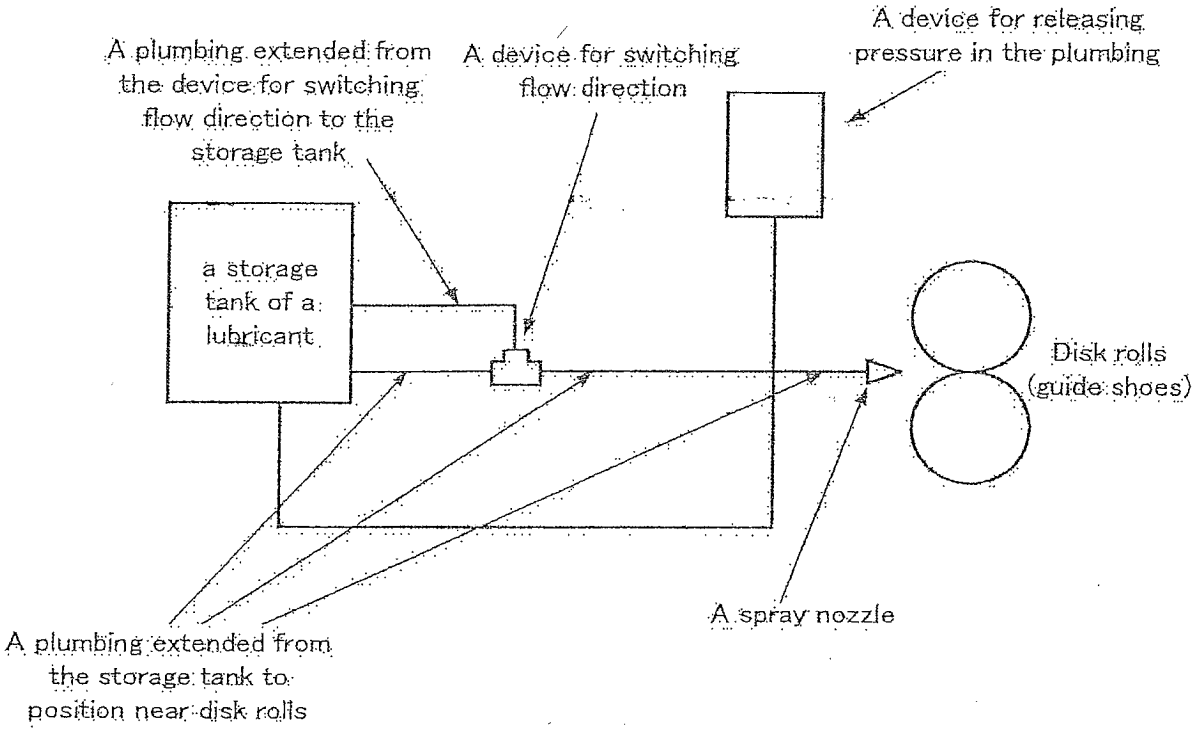

Fig. B

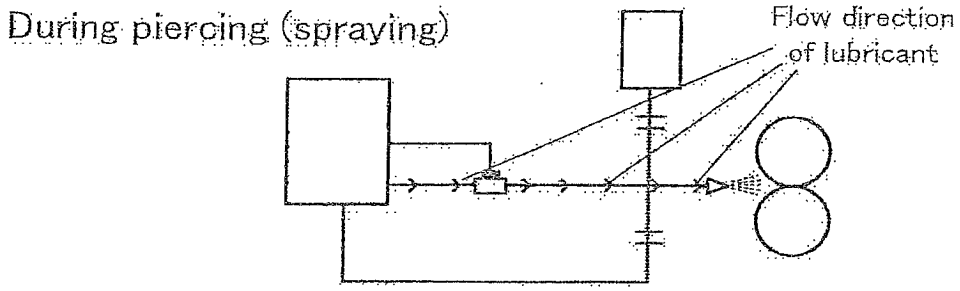

Fig. C